

# A New Species Group and Two New Species of *Euderomphale* Girault (Hymenoptera: Eulophidae) from North America

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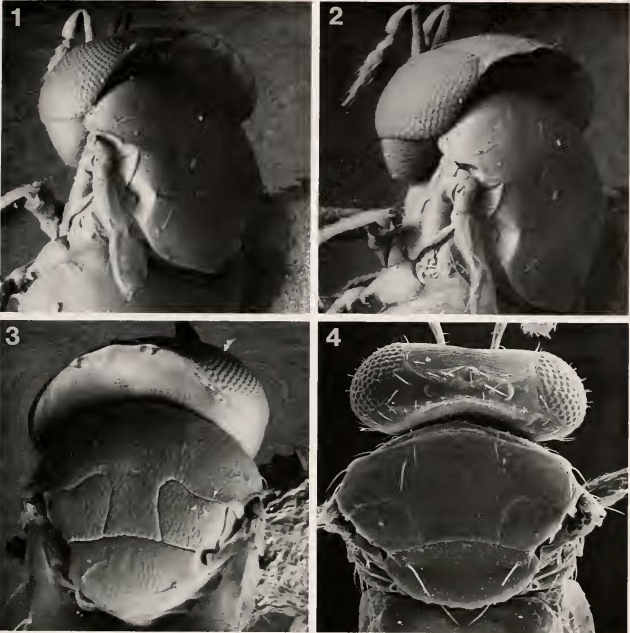
**Abstract.**—Two new species of *Euderomphale*, *E. sinuata* and *E. suzannae*, are described from North America. These represent a distinct species group within the genus *Euderomphale*, which is here referred to as the *sinuata* group. *E. sinuata* is brachypterous, and this represents the first record of brachyptery in the Euderomphalini.

*Euderomphale* is a cosmopolitan genus containing parasitoids of whiteflies. Thirteen described species in this genus were listed by LaSalle and Schauff (1994). No comprehensive keys to species have been published, but there are keys to limited numbers of regional species (Erdös 1966, for Hungary; Huldén 1986, for Finland). *Euderomphale* belongs in the tribe Euderomphalini. This tribe, containing parasitoids of whiteflies, was treated at the world level by LaSalle and Schauff (1994), who presented keys to, diagnoses for, and support for the monophyly of seven included genera in two genus groups. The present paper describes two new species which represent a new species group within the genus *Euderomphale*, the *sinuata* group. *Euderomphale* is thus separated into two spe-

cies groups: the *flavimedia* group (based on the valid name for the type species) contains 13 species (LaSalle and Schauff 1994), and the *sinuata* group contains the two species described in this paper. Biology for the two new species in the *sinuata* group is unknown, but it is presumed they are parasitoids of whiteflies like all other members of the Euderomphalini. *E. sinuata* is brachypterous, and this represents the first record of brachyptery in the Euderomphalini. It is also the first record of brachyptery in females of any Entedoninae, although brachyptery is known in males of *Microdonophagus woodleyi* Schauff (Schauff 1986). Kerrich (1973) reported the males of *Pediobius araconae* Kerrich to be micropterous, although in this species the wing is only slightly reduced and does not have a highly modified shape.

## KEY TO SPECIES GROUPS WITHIN *EUDEROMPHALE* AND SPECIES OF THE *SINUATA* GROUP (FEMALES)

1. Axilla smoothly rounded anteriorly (Fig. 4). Vertex smoothly rounded posteriorly (Fig. 4), with the lateral ocellus placed on the top of the head. Prepectus partially fused to mesopleuron anteriorly ..... *flavimedia* group (discussed by LaSalle and Schauff 1994)
- Axilla sinuate and concave anteriorly (Figs. 1, 3). Vertex with a distinct transverse carina; lateral ocellus behind this carina (Figs. 1–3). Prepectus free, not fused to mesopleuron ..... 2
2. Brachypterous; wings short, not extending past first gastral tergite (Fig. 1), infumated. Axilla with anterior margin deeply concave, anteromedial lobe narrower and more distinct (cf. Figs. 1 and 3). Gaster uniformly dark brown ..... *E. sinuata* LaSalle



Figs. 1–4. *Euderomphale* species, head and mesosoma. 1–2. *Euderomphale sinuata*. 3. *Euderomphale suzaunae*. 4. *Euderomphale* sp. (*flavimedia* group).

- Not brachypterous; wings normal, extending to or slightly past apex of abdomen, hyaline or very lightly infumate. Axilla with anterior margin shallowly concave, anteromedial lobe wider and less distinct (cf. Figs. 1 and 3). Gaster yellow or pale brown, with several dark transverse stripes ..... *E. suzaunae* LaSalle

Characters for the *Euderomphale* genus group (within the Euderomphalini): Head usually smooth to lightly sculptured. Frontal suture, when present, placed just ventral to median ocellus. Vertexal suture present, either placed between the ocelli,

or behind the ocelli. Malar sulcus usually present, although sometimes incomplete. Funicle with 1 or 2 segments. Dorsum of mesosoma more or less flattened and usually smooth to lightly sculptured, generally when distinct sculpture is present it is

incised. Midlobe of mesoscutum usually with only 1 or 2 pairs of setae. Scutellum distinctly wider than long, with 1 or 2 pairs of setae. Axilla either completely separated from mesoscutum by a complete suture, or partially fused to mesoscutum. Submarginal vein with one or two setae on dorsal surface. See LaSalle and Schauff (1994) for further discussion and illustration of these characters, and characters to define the Euderomphalini.

Characters for *Euderomphale*: Scrobal suture and frontal suture absent. Vertexal suture extending from the eye margin between the median and lateral ocelli. Malar sulcus present, although incomplete and extending away from the mouth margin (postero-laterally from the eye). Antenna with two funicular segments, although the first is reduced to not much larger than the size of an anellus (the small first funicular segment can generally be distinguished from an anellus by the presence of setae). Mesosoma always black, non-metallic, more or less flattened in lateral view, sculpture on dorsal surface usually either finely incised or smooth. Midlobe of mesoscutum generally with 2 pairs of setae near the anterior margin. Scutellum distinctly wider than long, and with two pairs of setae: a larger one near the middle of the scutellum and a smaller one at the posterior margin. Axilla large (as wide as long), and completely separated from mesoscutum by a sulcus. Dorsal surface of submarginal vein with 2 setae (a single seta in the brachypterous *sinuata*). See LaSalle and Schauff (1994) for further discussion and illustration of these characters.

Characters for the *flavimedia* species group in *Euderomphale*: Vertex smoothly rounded posteriorly. Axilla smoothly rounded anteriorly. Prepectus reduced and partially fused to the mesopleuron.

Characters for the *sinuata* species group in *Euderomphale*: Vertex with a distinct transverse carina; lateral ocelli placed posterior to this carina. Axilla sinuate and

concave anteriorly. Prepectus reduced (strongly so in *sinuata*) but separate, not fused to mesopleuron.

*Euderomphale sinuata* LaSalle, sp.n.  
(Figs. 1–2)

*Female*.—Length 0.75 mm. Head and mesosoma black, gaster dark brown. Scape yellow, pedicel and flagellum brown. All coxae black; fore and middle femora and tibiae dark brown to black; hind femur brown to light brown, hind tibia brown basally, light brown apically; tarsi brown, with apical segment dark brown. Wings infumated. Head with delicate, small, regular incised sculpture. Vertexal suture present near the eye margin; joining or running just anterior to vertexal carina. Mesosoma with delicate, small, regular incised sculpture. Axilla with anterior margin distinctly concave, antero-medial lobe narrower and more distinct than in *suzannae*. Prepectus quite reduced, separate from the mesopleuron. Wings greatly reduced, not reaching apex of first gastral tergite. Forewing with a single strong seta on submarginal vein and another on marginal vein. Gaster with tergite 5 extending over the telescoped tergites 6 and 7 and short ovipositor.

Holotype female, USA, Florida, Levy Co., 5 km SW Archer, 2–15.ix.1987, FIT, turkey oak shrubs, BRC HYM. TEAM (Canadian National Collection, Ottawa).

*Euderomphale suzannae* LaSalle, sp.n.  
(Fig. 3)

*Female*.—Length 0.90–0.95 mm. Head and mesosoma black, gaster yellow with transverse brown stripe on tergites 2–5, and a median longitudinal brown stripe on tergite 1. Scape yellow, pedicel and flagellum brown. Fore and middle coxae dark brown to black, hind coxa brown to light brown; fore femur dark brown; middle femur light brown, dark brown dorsoapically, hind femur yellow; fore tibia yellow to light brown, dark brown dorsally, middle tibia dark brown basally,

yellow to light brown apically, hind femur yellow to light brown; all tarsi yellow to light brown. Wings hyaline or very lightly infumated. Head with small, regular slightly raised sculpture (slightly stronger than in *sinuata*). Vertexal suture present near the eye margin; joining or running just anterior to vertexal carina. Mesosoma with small, regular incised sculpture (slightly stronger than in *sinuata*). Axilla with anterior margin moderately concave, anteromedial lobe broader and not as distinct as in *sinuata*. Prepectus moderately reduced, separate from the mesopleuron. Wings normal. Forewing with two strong setae on the submarginal vein. Gaster with last tergite not extending over the ovipositor.

Holotype female, USA, Missouri, Wayne Co., Williamsville, 10–26.vi.1987, MT, J. Becker (Canadian National Collection, Ottawa). Paratype female, USA, Missouri, Wayne Co., Williamsville, vii.1987, MT, J. Becker (Canadian National Collection, Ottawa).

*Etymology*.—Named for Suzanne Lewis.

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